Amendments to the Specification

Please amend paragraph [0045] with the following amended paragraph:

[0045] (4) P[n,n] is an nxn matrix with p(ij) indicating a value of the i-th row and the j-th column given by:

      p(ij)=1 when j=i+1

      p(ij)=1 when [[i=1]] i=n, [[j=n]] j=1

      p(ij)=0 otherwise

and this matrix will be referred to as an "rotation matrix". More specifically, this is a matrix such as the following.

$$P[3, 3] = \begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \end{pmatrix}$$

$$P[4, 4] = \begin{pmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 1 & 0 & 0 & 0 \end{pmatrix}$$

When this rotation matrix is multiplied to another matrix from the right side, this rotation matrix has an effect of shifting the first column to the second column, the second column to the third column, n-1-th column to the n-th column, and n-th column to the first column in that another matrix. In other words, when the matrix P is multiplied to another matrix from the right side for plural times, each column of that another matrix will be "rotated" towards the right direction as much as that plural times.